We claim:

1. A method for enhancing bone repair in a mammal, comprising the administration of an amount effective for enhancing bone repair in the mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent.

2. The method of claim 1 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

3. The method of claim 1 further comprising administration of an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

4. An improved method for bone and prosthesis implantation in a mammal, comprising the administration of an amount effective for enhancing bone and prosthesis implantation in the mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, $Tyr(PO_3)_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent.

5. The method of claim 4 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

6. The method of claim 4 further comprising administration of an amount effective for enhancing bone and prosthesis implantation in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6,

bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone

7. A kit for enhancing bone repair in a mammal, comprising:

(a) administering an amount effective for enhancing bone repair in the mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

R^1-R^2-R^3-R^4-R^5-R^6-R^7-R^8

in which R^1 and R^2 together form a group of formula

X-R^A-R^B-,

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent; and

(b) instructions for using the amount effective of active agent to enhance bone repair in a mammal.

8. The kit of claim 7 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

9. The kit of claim 7 further comprising an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

10. The kit of claim 7 further comprising a means for delivery of the active agent.

11. A kit for improved bone and prosthesis implantation, comprising:

(a) an amount effective to enhance bone and prosthesis implantation in a mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, $Glu(NH_2)$, Gly, $Asp(NH_2)$ and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, $Tyr(PO_3)_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent; and

(b) instructions for using the amount effective of active agent to enhance bone and prosthesis implantation in a mammal.

12. The kit of claim 11 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID

NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

13 The kit of claim 11 further comprising an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

14. The kit of claim 11 further comprising a means for delivery of the active agent.

15. A method for enhancing cartilage repair in a mammal, comprising the administration of an amount effective to enhance cartilage repair to the mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent.

16. The method of claim 15 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

17. A kit for enhancing cartilage repair in a mammal, comprising:

(a) an amount effective to enhance cartilage repair in a mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, $Glu(NH_2)$, Gly, $Asp(NH_2)$ and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, $Tyr(PO_3)_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent; and

(b) instructions for using the amount effective of active agent for enhancing cartilage repair in a mammal.

18. The kit of claim 17 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID

NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

19. An improved method for attachment and fixation of cartilage implants to bone or other tissue in a mammal, comprising the administration of an amount effective for attaching and fixing cartilage implants to bone or other tissue in a mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent.

20. The method of claim 19 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

21. A kit for improved attachment and fixation of cartilage implants to bone or other tissue, comprising:

(a) an amount effective to attach and fix a cartilage implant to bone or other tissue in a mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, $Tyr(PO_3)_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent; and

(b) instructions for using the amount effective of active agent amount effective to attach and fix a cartilage implant to bone or other tissue in a mammal.

22. The kit of claim 21 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

23. An improved medium for the culture of chondrocytes wherein the improvement comprises contacting the cells with an amount effective to accelerate proliferation of chondrocytes of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent.

24. The improved chemically defined medium of claim 23 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID

NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

25. A kit for the culture of chondrocytes, comprising

(a) an amount effective to accelerate proliferation of chondrocytes of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, $Tyr(PO_3)_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent; and

(b) instructions for using the amount effective of active agent amount effective to accelerate proliferation of chondrocytes.

26. The kit of claim 25 wherein the active agent is selected from the group consisting of angiotensinogen, SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19, SEQ ID NO:20, SEQ ID NO:21, SEQ ID NO:22, SEQ ID NO:23, SEQ ID NO:24, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO: 32, SEQ ID NO:33, SEQ ID NO: 34; SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38, SEQ ID NO:39, SEQ ID NO:40, SEQ ID NO:41, SEQ ID NO:42, SEQ ID NO:43, SEQ ID NO:44, and SEQ ID NO:45.

27. A method for enhancing bone repair in a mammal, comprising the administration of an amount effective for enhancing bone repair in the mammal of at least one active agent of the formula

Asp-Arg-R1-R2-Ile-His-Pro-R2, wherein

R1 is selected from the group consisting of Ile, Pro, Ala, Val, Leu, and norLeu;

R2 is selected from Tyr and $Tyr(PO_3)_2$; and

R3 is Phe, or is absent.

28. The method of claim 27 wherein the active agent is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, SEQ ID NO:24, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO: 33, SEQ ID NO:41, and SEQ ID NO: 45.

29. The method of claim 27 further comprising the administration of an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

30. An improved method for bone and prosthesis implantation in a mammal, comprising the administration of an amount effective for enhancing bone and prosthesis implantation to the mammal of at least one active agent of the formula

Asp-Arg-R1-R2-Ile-His-Pro-R2, wherein

R1 is selected from the group consisting of Ile, Pro, Ala, Val, Leu, and norLeu;

R2 is selected from Tyr and $Tyr(PO_3)_2$; and

R3 is Phe, or is absent.

31. The method of claim 30 wherein the active agent is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, SEQ ID NO:24, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO: 33, SEQ ID NO:41, and SEQ ID NO: 45.

32. The method of claim 30 further comprising the administration of an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

33. A kit for enhancing bone repair in a mammal, comprising:

(a) an amount effective for enhancing bone repair in the mammal of at least one active agent of the formula

Asp-Arg-R1-R2-Ile-His-Pro-R2, wherein

R1 is selected from the group consisting of Ile, Pro, Ala, Val, Leu, and norLeu;

R2 is selected from Tyr and $Tyr(PO_3)_2$; and

R3 is Phe, or is absent; and

(b) instructions for using the amount effective of active agent to enhance bone repair in a mammal.

34. The kit of claim 33 wherein the active agent is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, SEQ ID NO:24, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO: 33, SEQ ID NO:41, and SEQ ID NO: 45.

35. The kit of claim 33 further comprising an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

36. The kit of claim 33 further comprising a means for delivery of the active agent.

37. A kit for improved bone and prosthesis implantation, comprising:

(a) an amount effective to enhance bone and prosthesis in a mammal of at least one active agent of the formula

Asp-Arg-R1-R2-Ile-His-Pro-R2, wherein

R1 is selected from the group consisting of Ile, Pro, Ala, Val, Leu, and norLeu;

R2 is selected from Tyr and $Tyr(PO_3)_2$; and

R3 is Phe, or is absent; and

(b) instructions for using the amount effective of active agent to enhance bone and prosthesis implantation in a mammal.

38. The kit of claim 37 wherein the active agent is selected from the group consisting of SEQ ID NO:1, SEQ ID NO:4, SEQ ID NO:24, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO: 33, SEQ ID NO:41, and SEQ ID NO: 45.

39. The kit of claim 37 further comprising an amount effective for enhancing bone repair in the mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone.

40. The kit of claim 37 further comprising a means for delivery of the active agent.

41. A method for enhancing cartilage repair in a mammal, comprising the administration of an amount effective to enhance cartilage repair to the mammal of at least one active agent of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent.

42. A kit for enhancing cartilage repair in a mammal, comprising:

(a) an amount effective to enhance cartilage repair in a mammal of at least one active agent comprising a sequence of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent; and

(b) instructions for using the amount effective of active agent for enhancing cartilage repair in a mammal.

43. An improved method for attachment and fixation of cartilage implants to bone or other tissue in a mammal, comprising the administration of an amount effective for attaching and fixing cartilage implants to bone or other tissue in a mammal of at least one active agent of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent.

44. A kit for improved attachment and fixation of cartilage implants to bone or other tissue, comprising:

(a) an amount effective to attach and fix a cartilage implant to bone or other tissue in a mammal of at least one active agent comprising a sequence of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent; and

(b) instructions for using the amount effective of active agent amount effective to attach and fix a cartilage implant to bone or other tissue in a mammal.

45. An improved medium for the culture of chondrocytes wherein the improvement comprises contacting the cells with an amount effective to accelerate proliferation of chondrocytes of at least one active agent comprising a sequence of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent.

46. A kit for the culture of chondrocytes, comprising

(a) an amount effective to accelerate proliferation of chondrocytes of at least one active agent comprising a sequence of the formula

R1-R2-R3-R4-R5-His-Pro-R6, wherein

R1 is selected from the group consisting of Hydrogen, Gly, and Asp;

R2 is selected from the group consisting of Arg, Citron, or Ornithine;

R3 is selected from the group consisting of Val, Ile, Ala, Leu, and norLeu, or Pro;

R4 is selected from Tyr, $Tyr(PO_3)_2$, and Ala;

R5 is selected from the group consisting of Ile, Ala, Val, Leu, and norLeu; and

R6 is Phe, Ile, or is absent; and

(b) instructions for using the amount effective of active agent amount effective to accelerate proliferation of chondrocytes.

47. A pharmaceutical composition comprising

(a) an amount effective to enhance bone repair or bone and prosthesis implantation in a mammal of at least one active agent comprising a sequence of the formula

Asp-Arg-R1-R2-Ile-His-Pro-R2, wherein

R1 is selected from the group consisting of Ile, Pro, Ala, Val, Leu, and norLeu;

R2 is selected from Tyr and $Tyr(PO_3)_2$; and

R3 is Phe, or is absent; and

(b) an amount effective to enhance bone repair or bone and prosthesis implantation in a mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone; and

(c) a pharmaceutically acceptable carrier.

48. A pharmaceutical composition comprising

(a) an amount effective to enhance bone repair or bone and prosthesis implantation in a mammal of at least one active agent comprising a sequence consisting of at least three contiguous amino acids of groups R^1-R^8 in the sequence of general formula I

$$R^1\text{-}R^2\text{-}R^3\text{-}R^4\text{-}R^5\text{-}R^6\text{-}R^7\text{-}R^8$$

in which R^1 and R^2 together form a group of formula

$$X\text{-}R^A\text{-}R^B\text{-},$$

wherein X is H or a one to three peptide group, or is absent,

R^A is suitably selected from H, Asp, Glu, Asn, Acpc (1-aminocyclopentane carboxylic acid), Ala, Me^2Gly, Pro, Bet, Glu(NH_2), Gly, Asp(NH_2) and Suc,

R^B is suitably selected from Arg, Lys, Ala, Orn, Citron, Ser(Ac), Sar, D-Arg and D-Lys;

R^3 is selected from the group consisting of Val, Ala, Leu, norLeu, Ile, Gly, Pro, Aib, Acpc and Tyr;

R^4 is selected from the group consisting of Tyr, Tyr(PO_3)$_2$, Thr, Ala, Ser, homoSer and azaTyr;

R^5 is selected from the group consisting of Ile, Ala, Leu, norLeu, Val and Gly;

R^6 is His, Arg or 6-NH_2-Phe;

R^7 is Pro or Ala; and

R^8 is selected from the group consisting of Phe, Phe(Br), Ile and Tyr, excluding sequences including R^4 as a terminal Tyr group, or is absent;

(b) an amount effective to enhance bone repair or bone and prosthesis implantation in a mammal of at least one compound selected from bone morphogenic protein-2, bone morphogenic protein-4, bone morphogenic protein-6, bone morphogenic protein-7, transforming growth factor-beta, insulin-like growth factor, and parathyroid hormone; and

(c) a pharmaceutically acceptable carrier.